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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,427	03/08/2002	Man-Lin Chen	CHEN3350/EM	8770

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EXAMINER

GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 07/29/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,427

Applicant(s)

CHEN ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. The claims appear to be a literal translation into English from a foreign language document and are replete with grammatical and idiomatic errors. The following is a list of suggestions by the examiner and in addition, it is suggested applicant make changes where clarity and consistency in terms may be further enhanced. Claims 1-9 are objected to because of the following informalities:

- a. In the first line of claim 1, "comprises of" should be changed to "comprised of".
- b. It is suggested in claim 1, line number 10, "in which it forms" be changed to "formed".
- c. In claim 1, line 13, "the" should be inserted before "transparent electrodes".
- d. In claim 1, it is suggested the parentheses in lines 13 and 14 be deleted for clarity.
- e. In claim 1, line 13, it is suggested "but" be changed to "wherein".
- f. In claim 1, line 14, it is suggested "it forms" be changed to "thereby forming".
- g. In claim 1, line 15, the phrase "between cavity and insulating convex" is unclear and it is suggested the cavity and convex limitations be written more clearly to improve clarity.
- h. In claim 1, line 16, it is suggested "the" be changed to "at".
- i. In claim 1, line 16, it is suggested "the" be inserted before "cavity".
- j. In claim 1, line 17, it is suggested "the" be inserted before "two".
- k. In claim 1, line 17, "side" should be changed to "sides".

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l. In claim 1, line 18, it is suggested "in which it forms onto" be changed to "on the".

m. In claim 1, line 20, it is suggested "in which it forms onto" be changed to "on the".

n. In claim 1, line 22, it is suggested "in which it forms onto" be changed to "on the".

o. In claim 1, line 23, it is suggested ", through the composition described above it forms a luminous device" be deleted because the phrase is not necessary to further define the claim and "it" is unclear in the phrase.

p. In claim 2, it is suggested "can be" be changed to "is" or "optionally is".

q. In claim 3, it is suggested "of the insulating film" be inserted after "composition".

r. In claim 4, line 7, it is suggested "said" be deleted.

s. In claim 4, lines 9 and 10, it is suggested "it becomes" be changed to "forming".

t. In claim 4, line 10, it is suggested "gradient smooth" be changed to "smooth gradient".

u. In claim 5, it is suggested "said" be deleted.

v. In claim 5, it is suggested "method of" be inserted before "postbake".

w. In claim 6, it is suggested ",etc" be deleted.

x. In claim 6, it is suggested the comma between (ITO) and indium-zinc-oxide be deleted and "and" be inserted in its place.

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y. In claim 7, it is suggested "can be" be replaced with "is" or "optionally is".

z. In claim 7, it is suggested "its" be replaced with "lithium" for clarity.

aa. In claim 8, it is suggested "the" be removed from line 21.

bb. In claim 8, it is suggested "can be" be replaces with "is" or "optionally is".

cc. In claim 9, it is suggested "the" be deleted before "catalyst".

dd. In claim 7, "the group consisting of" should be inserted before "Al".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 3-5, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 1 recites "it forms a plurality of insulating film layers between cavity and insulating convex". It is unclear to what component or method "it" refers. Also it is unclear what comprises and forms the cavity and convex. Clarification and correction are required.

5. In claim 3, line 4, "the composition" is recited, but claim 1 never recites a composition. For purposes of examination, the composition is interpreted to be the composition of the insulating film. Clarification and correction are required.

6. In claim 3, lines 5 and 6, "and/or" is recited prior to "catalyst" and "other adhesive promoter". It is unclear if these components are optional or if the composition may

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comprise these components singularly when the alternative "or" is used. For purposes of examination, these components are interpreted to be optional to the composition.

Also, the word "other" is unclear since no further adhesive promoters were recited previously. It is suggested the word "other" be deleted. Clarification and correction are required.

7. The preamble of claim 4 is "The composition of an insulating film layer of claim 1", which is confusing because claim 1 does not recite a composition for the insulating film. It is suggested the claim be changed to exclude the composition recitation and merely refer to the insulating film layer.

8. In claim 5, "the postbake heated reflow" is recited. It is unclear what encompasses this method since the terminology is not used in claim 1. It is suggested "method of" be inserted before "postbake".

9. In claim 9, the terminology "potentially acidic" is considered indefinite. It is not clear what properties would render a catalyst "potentially acidic". For purposes of examination, the catalyst is considered to be either acidic or non-acidic.

10. In claim 9, "the bake" is recited, but it is not clear what "the bake" encompasses since neither claim 1 nor claim 3, upon which claim 9 depends, recites a baking step. Correction and clarification are required.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 2, and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend (US 6,580,212) in view of Yamaguchi et al. (2002/0003402 A1). Friend teaches a display device comprising light emitting regions separated by a barrier structure (see front page drawing and abstract). The barrier structure may be comprised of photoresist material that is heated and rounded into shape at the top per the instant "insulating film" and instant claims 4 and 5 (see col. 8, lines 38-46 and figure 5). The substrate (20) is a glass sheet (see col. 7, lines 9-10) per instant claim 2. There are a plurality of transparent electrodes (24) which are anodes comprising ITO (see col. 7, lines 11-12 and figures) per instant claim 6. The cathode electrode (25) may be comprised of Ca, Li, or Al per instant claim 7 (see col. 5, lines 38-52 and col. 8., lines 6-10). Friend teaches a light emissive region (44) (see col. 8, lines 44-46) entirely within the cavity formed by the barrier material, but fails to teach specifically this layer comprises sublayers of a hole transport layer, hole injection layer, light-emitting layer, and electron transport layer, which are common components of the organic functional layers of an organic electroluminescent device. Friend does teach "other layers can be added to the device, for example to improve charge transport between the electrodes and the electroluminescent material" besides the electroluminescent organic material layer (see col. 1, lines 33-34). Yamaguchi et al. teaches, in analogous art, an EL element comprising an organic EL layer consisting of a hole injection layer 13, a hole transport layer 14, light emission layers 15, and an electron transport layer 16 in a device comprising a plurality of electrodes separated by an insulating barrier (see par.

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35 and figures). It would have been obvious to one of ordinary skill in the art to have formed the layers of an organic EL layer taught by Yamaguchi as the light emissive layer in the Friend device, because Yamaguchi et al. teaches these layers comprise a successful light emitting configuration for an organic electroluminescent device.

13. Claims 3, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend (US 6,580,212) in view of Yamaguchi et al. (2002/0003402 A1) in further view of Szmanda et al. (US 5,876,899). Friend and Yamaguchi et al. are relied upon as set forth above in the rejection of claim 1. Per the thickness limitation of claim 3, Friend teaches the height of the photoresist barrier is a few and a few tens of microns thick. This teaching is understood to include at least 2-10 microns; since 1 micron is equal to 1000 nm, the teaching is deemed to encompass and/or overlap with the recited range of 50-5000 nm. Friend teaches a photoresist material as the barrier region per the insulating film (see col. 8, lines 38-46), but fails to teach the specific composition of the photoresist. Szmanda et al. teaches a photoresist composition comprising a mixture of photoactive compound and a resin binder comprising phenolic units (see col. 2, lines 21-25), crosslinking agents such as melamine formaldehyde per the thermosetting resin (see col. 5, lines 53-61), an acid generator per the catalyst (see col. 6, lines 6-9), solvent (see col. 9, lines 15-53), and further plasticizers per the instant "adhesive promoter" (see col. 10, lines 16-18). It would have been obvious for one of ordinary skill in the art to have selected the photoresist compositions taught by Szmanda et al. in the Friend device comprising a photoresist, because Szmanda et al. teaches the photoresist compositions have improved performance and functional

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properties and Friend generally teaches any photoresist composition is suitable in the device.


Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (703) 305-0788. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.


DAWN GARRETT
PATENT EXAMINER
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D.G.
July 22, 2003